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My River, My Community 河處是吾家

Guided Field Trip to

Kam Tin River (錦田河) Catchment

Handbook for Tour Guides

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Field Study of Kam Tin River Handbook for Tour Guides

Contents

1 Notes to Field Study of Rivers

Safety Measures

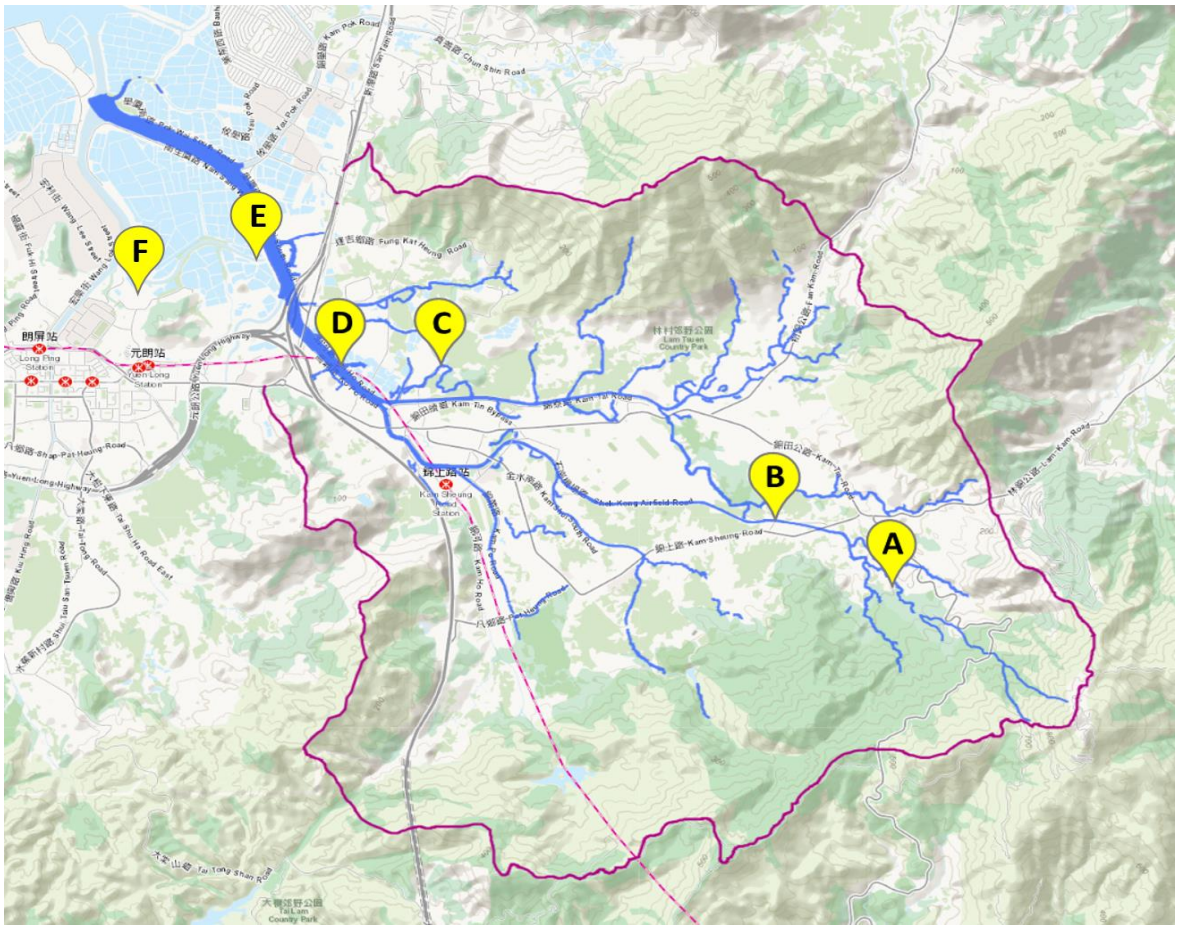
1. Wear long-sleeved shirts and trousers to prevent mosquito bites and cuts caused by plants;
2. Wear slip-resistant shoes; and
3. Leave the vicinity of the river immediately if there is a sudden rise of the water level or an increase in the turbulence and turbidity of the stream flow.

Code of conduct

1. Protect the countryside and its natural landscapes, do not pollute rivers and litter;
2. Do not disturb vegetation, wildlife and their living environment;
3. Respect villagers, do not damage private properties, crops and livestock.

2 Kam Tin River and the fieldwork sites

Map 2.1: Kam Tin River and the fieldwork sites



The fieldwork sites (refer to Map 2.1)

- **A** • **Lui Kung Tin and Kap Lung（雷公田及甲龍）**
- **B** • **Wing Hing Wai（永慶圍）**
- **C** • **Bin Mo Bridge and cultural heritage sites of the Tang clan（便母橋及錦田鄧氏古蹟）**
- **D** • **West Rail compensatory wetland（西鐵補償濕地）**
- **E** • **Old Kam Tin River channel（錦田河舊河道）**
- **F** • **Nam Sang Wai and hand-pulled ferry（南生圍及橫水渡）**

3 About Kam Tin River

1. About Kam Tin River

Kam Tin River is located at Kam Tin area, east of Yuen Long, in the northwestern New Territories, with a catchment area of about 44.3 km^2. Its main stream originates north of Tai Mo Shan's (大帽山) summit with an altitude of 910 m, making it the river with the second-highest origin in Hong Kong (the highest is Tai Shing Stream, which originates at an altitude of 930 m). The main stream of Kam Tin River flows down the steep slope on the northwest side of Tai Mo Shan, goes past Route Twisk (荃錦公路), Lui Kung Tin (雷公田) and Tai Ling (大嶺), and enters Kam Tin Plain. It then passes Sheung Tsuen (上村), south of Shek Kong Barracks (石崗軍營) and Ng Ka Tsuen (吳家村), before converging with a large tributary to the west of Kam Tin Shi (錦田市). It continues its flow downstream through Nam Sang Wai (南生圍) at the west of Sha Po Tsuen (沙埔村), and converges with Shan Pui River (山貝河) at the south of Lut Chau (甩洲) before entering Deep Bay (后海灣). The horizontal length of Kam Tin River's main stream is about 13 km, with an average gradient of 0.069 (or 1:14.4).

Figure 3.1: Kam Tin River

	"Rivers@HK Database" **[Kam Tin River > Kam Tin River Location and Catchment > About Kam Tin River]** **https://goo.gl/Nm2BvG**

2. River Management

Being one of the large rivers in Hong Kong with abundant flow, Kam Tin River was an important water source for irrigation in the past. As villages and new towns developed, Kam Tin River has undergone a series of river training projects since the 1960s, manifesting the impacts of urbanisation processes on a natural river.

Irrigation

When there was no tap water supply, farmers built weirs on streams to store water, and laid pipes to divert the water to the farms for livestock rearing, irrigation and other daily uses.

Waterworks

In the 1960s, the government built Tai Lam Chung Catchwater to divert water from Kam Tin River to Tai Lam Chung Reservoir. With a drastic reduction in discharge in the lower course of Kam Tin River, irrigation was significantly affected. Therefore, the government built Ho Pui and Tsing Tam Irrigation Reservoirs as a compensation.

Figure: 3.2: Tai Lam Chung Catchwater

Drainage works

In response to the worsening flooding problem due to intensive urbanisation processes, the government implemented large-scale river training projects in Kam Tin River during the 1990s. Most tributaries in the middle and lower courses were channelised. A new broad channel was also built to enhance the discharge capacity for receiving storm water from Yuen Long Bypass Floodway. Moreover, Kam Tin River's catchment area was extended due to the completion of Ngau Tam Mei Channel in 2003. More rainwater can then be discharged by the river.

Figure 3.3: New channel of the lower course of Kam Tin River

	"Rivers@HK Database" **[Kam Tin River > Kam Tin River Location and Catchment > River Management]** **https://goo.gl/Nm2BvG**

3. Ecology

As most of the catchment area in the upper reaches of Kam Tin River has been designated as country parks or Site of Special Scientific Interest (SSSI), the natural streams there are preserved. A variety of freshwater fish, amphibian and insect species constitute the rich biodiversity in the upper course of the river.

When Kam Tin River enters Kam Tin Plain, its ecological value decreases appreciably. The natural riverine environment has been greatly transformed due to channelisation works. Besides, a number of livestock farms and villages discharge sewage directly into river channels, causing severe water pollution.

The lower course of Kam Tin River has also undergone channelisation in recent years. Nevertheless, engineers have adopted a series of environmental impact mitigation measures to improve the river environment. Also, the neighbouring fishponds and wetlands attract a multitude of water fowls and amphibians to reside in the river. Therefore, high ecological value is observed in this area.

	"Rivers@HK Database" **[Kam Tin River > Ecology]** **https://goo.gl/Nm2BvG**

4 Cultural Heritage

Introduction

As an alluvial plain of Kam Tin River, Kam Tin Plain is bestowed with abundant water resources and fertile soils. Thus, Kam Tin Plain is a favourable place for developing agriculture and settlements.

As early as in the Northern Song Dynasty, the ancestors of the Tang clan settled and thrived in Kam Tin Plain. After centuries of development, Kam Tin has become one of the major settlement clusters of the Tang clan in the New Territories. There remain a number of cultural heritage sites, such as study halls, ancestral halls and temples.

In addition, some ancient bridges and wells in Kam Tin have been preserved, demonstrating the close relationship between the rivers and the villages, as well as the significance of rivers upon the livelihood of residents in the past.

Cultural Heritage Sites of the Tang clan

1. Bin Mo Bridge (便母橋)

Bin Mo Bridge was built in 1710 by Tang Chun Yuen to provide easy access for his mother to cross the river. Six slabs of granite that are laid on top of stone piers form the deck of the bridge. A memorial stone made of granite erected beside the bridge inscribes the history of the bridge. The Bin Mo Bridge is listed as a Grade II historic building by the Antiquities and Monuments Office.

Figure 4.1: Bin Mo Bridge

Figure 4.2: The dedication stone of Bin Mo Bridge

2. Cheung Chun Yuen (長春園)

Cheung Chun Yuen, also known as Lau Kang Tong, was built between 1821 and 1850 during the Dao Guang Era of the Qing Dynasty. It was a martial art school dedicated to the training of the youth of the Tang clan in becoming military officials. In the meantime, it was an ancestral hall of the Tang clan. There are still a number of historical artefacts preserved in Cheung Chun Yuen, including three ancient Chinese cast-iron halberds. Cheung Chun Yuen is listed as a Grade I historic building by the Antiquities and Monuments Office.

Figure 4.3: Cheung Chun Yuen

Figure 4.4: Three ancient Chinese cast-iron halberds in Cheung Chun Yuen

3. Hung Shing Temple (洪聖宮)

The Hung Shing Temple in Shui Tau Tsuen, also known as the Big Temple, was constructed over 500 years ago, and is dedicated to the worship of Hung Shing Yeh. On the 15th day of the first month of the lunar calendar, villagers of Shui Tau Tsuen gather to pray to Hung Shing Yeh. Villagers and other community groups also hold lion dances and light firecrackers during the festivities. The Hung Shing Temple was rebuilt in 1984, and has been listed as a Grade III historic building by the Antiquities and Monuments Office.

Figure 4.5: Hung Shing Temple

4. Lik Wing Tong Study Hall (力榮堂書室)

Lik Wing Tong Study Hall, formerly a private study hall, was built before 1835 and renovated in 2000. A plaque is hung above the entrance of the ancestral hall inside the study hall. Lik Wing Tong Study Hall is listed as a Grade I historic building by the Antiquities and Monuments Office.

Figure 4.6: Lik Wing Tong Study Hall

Figure 4.7: Interior view of Lik Wing Tong Study Hall

5. Tang Ching Lok Ancestral Hall (清樂鄧公祠)

The Tang Ching Lok Ancestral Hall, also known as Sze Shing Tong, was built in the Ming Dynasty serving as the main meeting place for villagers. The ancestral hall has a three-hall structure, in which the third hall is dedicated to the worship of the ancestors of the Tang clan. The Tang Ching Lok Ancestral Hall is listed as a Grade I historic building by the Antiquities and Monuments Office.

Figure 4.8: Tang Ching Lok Ancestral Hall

6. Tang Kwong U Ancestral Hall (廣瑜鄧公祠)

Tang Kwong U Ancestral Hall, also known as Loi Shing Tong, was built in 1701 during the Kangxi Era of the Qing Dynasty. It underwent a major renovation in 1996. Tang Kwong U Ancestral Hall is an example of Qing vernacular architecture with a two-hall-one-courtyard layout of three bays. There are side chambers on both sides of the open courtyard. The main bay of the rear hall houses an ancestral altar for the worship of the Tang ancestors. Tang Kwong U Ancestral Hall is listed as a declared monument by the Antiquities and Monuments Office.

Figure 4.9: Tang Kwong U Ancestral Hall

7. Tin Hau Temple, Shui Mei Tsuen (天后古廟)

Tin Hau – a deity of the sea – is worshipped by fishermen whose livelihoods depend largely on the sea. Temples dedicated to the worship of Tin Hau are mostly located along the coast or navigable rivers. The Tin Hau Temple at Shui Mei Tsuen was built between 1662 and 1722 and underwent reconstruction in 1936. The original three halls within the temple were converted into two halls. The temple is also used by the Tang clan to hold lantern-lighting and Taoist rituals. The Tin Hau Temple is listed as a Grade III historic building by the Antiquities and Monuments Office.

Figure 4.10: Tin Hau Temple

Figure 4.11: A well next to Tin Hau Temple

8. Well in Shui Tau Tsuen (水頭村水井)

The well in Shui Tau Tsuen was the water source for villagers in the early days when the village was founded. Since the village is supplied with tap water, the well has been abandoned and sealed off with a wire mesh.

Figure 4.12: Well in Shui Tau Tsuen

9. Yi Tai Study Hall (二帝書院)

Yi Tai Study Hall is believed to be built between 1821 and 1850 during the reign of the Daoguang Emperor of the Qing Dynasty and underwent renovation in 1994. With a simple and practical structure, the hall was used as a place for worshiping Man Cheong and Kwan Tai (God of Literature and God of Martial Arts), as well as education. Yi Tai Study Hall is a declared monument designated by the Antiquities and Monuments Office.

Figure 4.13: Yi Tai Study Hall

Figure 4.14: Interior view of Yi Tai Study Hall

	"My River, My Community" – Cultural Tour **https://goo.gl/CETH6o**

5 Fieldwork site A: Lui Kung Tin and Kap Lung

Upper course and Tai Lam Chung Catchwater

Originating from Tai Mo Shan (大帽山), Kam Tin River flows through Kap Lung (甲龍) and Lui Kung Tin (雷公田) before entering Kam Tin Plain (錦田平原). The river then meanders through Pat Heung, Kam Tin and Nam Sang Wai. Finally, it converges with Shan Pui River north of Nam Sang Wai before entering Deep Bay.

In order to increase the water supply of Tai Lam Chung Reservoir, a 7 km long catchwater known as Tai Lam Chung Catchwater was built in the 1960s. Situated in Lui Kung Tin, Tai Lam Chung Catchwater diverts all water from the upper reaches of Kam Tin River to Tai Lam Chung Reservoir. In Hong Kong, most of the water gathering grounds overlap with Country Parks, and hence are protected by the Country Parks Ordinance. This helps protect the clean water resources in the countryside and safeguards drinking water quality.

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[Site A: Lui Kung Tin and Kap Lung]

https://goo.gl/gi8ck2

Map 5.1: Field study site at Lui Kung Tin and Kap Lung

Figure 5.1: Natural stream at the upper course of Kam Tin River

Figure 5.2: Tai Lam Chung Catchwater at Lui Kung Tin

6 Fieldwork site B: Wing Hing Wai

Channelisation and river water pollution

To reduce the risk of flooding in Kam Tin region, a series of river training works have been carried out by the government since the 1990s. Channelised in the early 2000s, the river section near Wing Hing Wai was designed to withstand 50-year return period rainstorms. In addition, an inflatable fabridam has been installed to regulate the river flow. Water quality of Kam Tin River at Wing Hing Wai is poor, possibly caused by the discharge from various land-uses including pig farms and village houses.

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[Site B: Wing Hing Wai]

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Map 6.1: Field study site at Wing Hing Wai

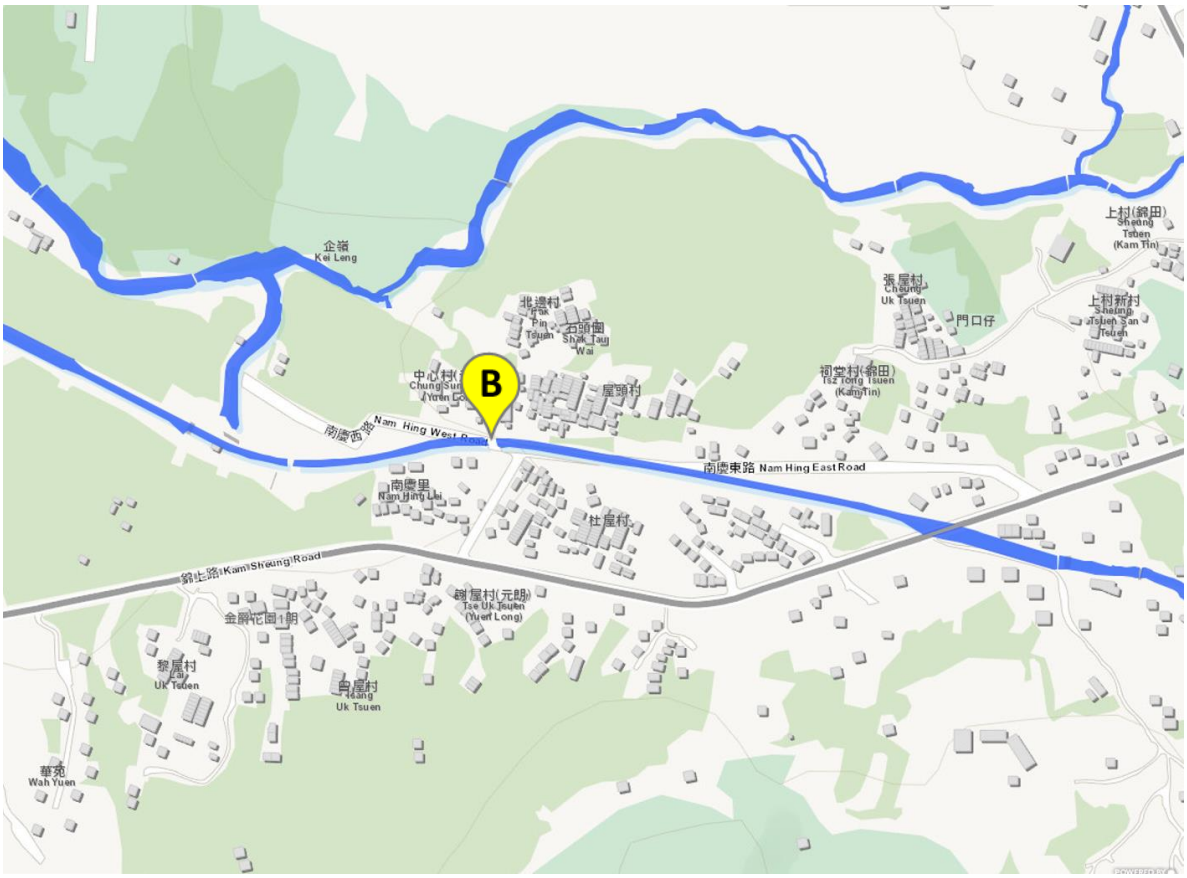

Figure 6.1: Kam Tin River section at Wing Hing Wai

Figure 6.2: Inflatable fabridam at Wing Hing Wai

7 Fieldwork site C: Bin Mo Bridge and cultural heritage sites of the Tang clan

Bin Mo Bridge

Bin Mo Bridge was built in 1710 by Tang Chun Yuen to provide easy access for his mother and brother to cross the river. This bridge, as one of the few well-preserved ancient bridges in Hong Kong, is designated as a Grade II historic building by the Antiquities and Monuments Office. Although the Kam Tin River channel has been significantly altered after the completion of drainage improvement works in the 2000s, the natural meander in this area has been preserved.

Cultural heritage sites of the Tang clan

Located in the vicinity of Bin Mo Bridge, Shui Tau Tsuen and Shui Mei Tsuen are villages which we can find different types of historic buildings of the Tangs, including ancestral halls, study halls, and temples. Among them, Yi Tai Study Hall and Tang Kwong U Ancestral Hall have even been listed as declared monuments, while Tang Ching Lok Ancestral Hall, Cheung Chun Yuen and Lik Wing Tong Study Hall have been graded as Grade I historic buildings.

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[Site C: Bin Mo Bridge and cultural heritage sites of the Tang clan]

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Map 7.1: Field study site at Bin Mo Bridge and cultural heritage sites of the Tang clan

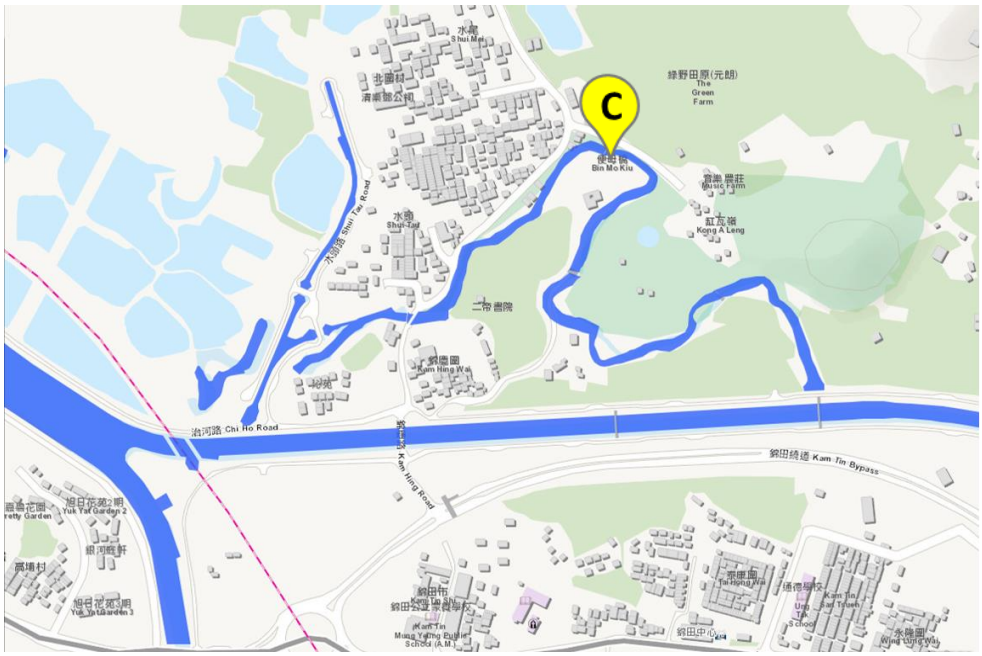

Figure 7.1: Bin Mo Bridge

Figure 7.2: Yi Tai Study Hall

8 Fieldwork site D: West Rail compensatory wetland

What is Wetland Compensation Area?

The establishment of Wetland Compensatory Area is to replace the loss of wetland and aquatic resource functions in the watershed. Compensatory mitigation refers to the restoration, establishment, enhancement, or preservation of wetlands, streams or other aquatic resources for offsetting the unavoidable adverse impacts brought about by construction works.

West Rail compensatory wetland

The West Rail compensatory wetland is located underneath the railway viaduct and occupies 12 hectares of land beside Kam Tin River. As the West Rail construction works destroyed a certain area of wetland, Kowloon-Canton Railway Corporation (KCRC) had to recreate the wetland in accordance with ecological compensation principle. Such practice was a requirement for the issuance of the Environmental Permit and was an action to fulfil the commitment in environmental protection.

The creation of compensatory wetland was completed in 2003. An old Kam Tin River section has been preserved within the site. Some rare bird species, frogs and other animals have been found in the wetlands. As a pioneer of wetland recreation in Hong Kong, the experience of West Rail compensatory wetland project provided valuable insights for the implementation of subsequent local wetland recreation works.

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[Site D: West Rail compensatory wetland]

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Map 8.1: Field study site at West Rail compensatory wetland

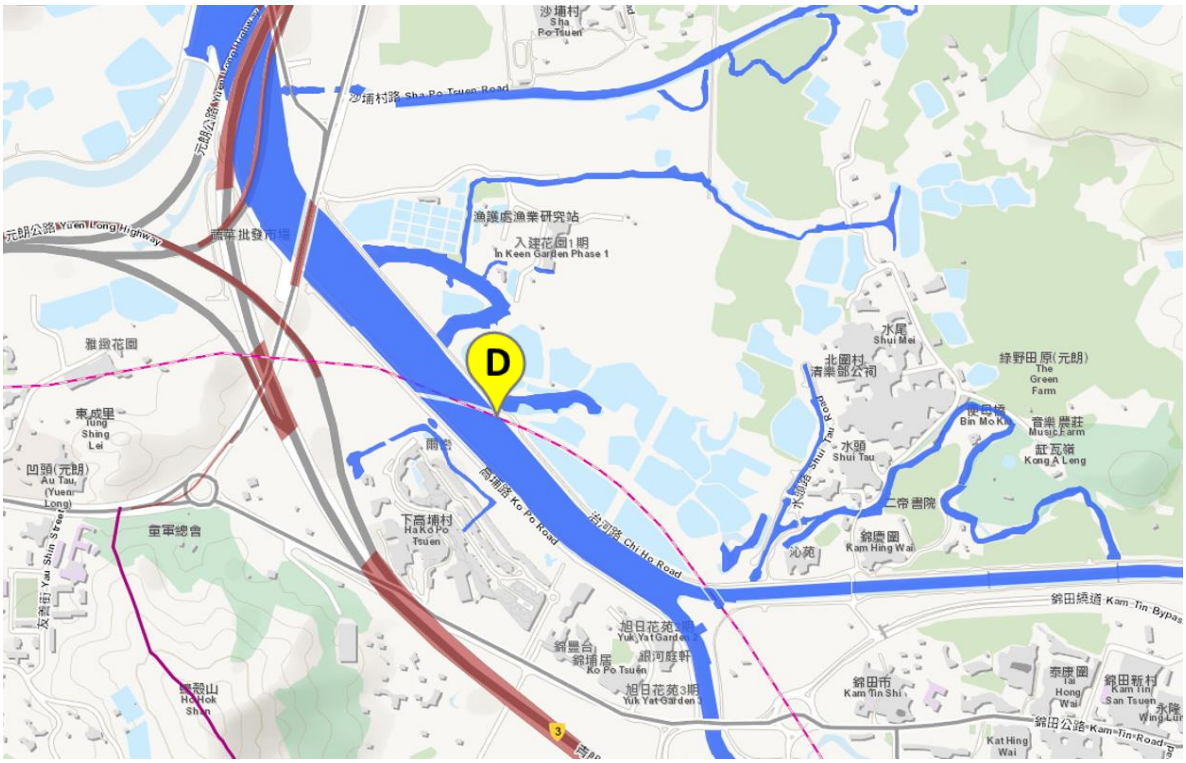

Figure 8.1: West Rail compensatory wetland

Figure 8.2: Old Kam Tin River channel

9 Fieldwork site E: Old Kam Tin River channel

Old and New Kam Tin River channel

The old Kam Tin River channel meanders through the southern edge of Nam Sang Wai. Since it is too narrow and sinuous, it could not cope with the immense volume of floodwater during times of heavy rain. Thus, a new and wider Kam Tin River channel with larger floodwater drainage capacity was built in 1997.

To lessen the environmental impacts brought about by the channel construction works, various mitigation measures were carried out. For example, mangroves have been planted along the river channel while the natural riverbed has been retained, allowing the formation of mudflats on both sides of the channel to provide suitable habitats for wetland flora and fauna.

Yuen Long Bypass Floodway engineered wetland

The Yuen Long Bypass Floodway is a 3.8 km long drainage channel running across the southeastern margin of Yuen Long new town to the lower course of Kam Tin River. In order to compensate for the ecological habitat losses associated with the construction works, a 7 hectare engineered wetland has been created at the lower reaches north of the confluence with Kam Tin River. The wetland contains several filtration ponds and reef beds which help purify the incoming water from the floodway. Completed in late 2005, the creation of the wetland has provided wild birds, amphibians and dragonflies with an ecologically enhanced habitat.

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[Site E: Old Kam Tin River channel]

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Map 9.1: Field study site at Old Kam Tin River channel

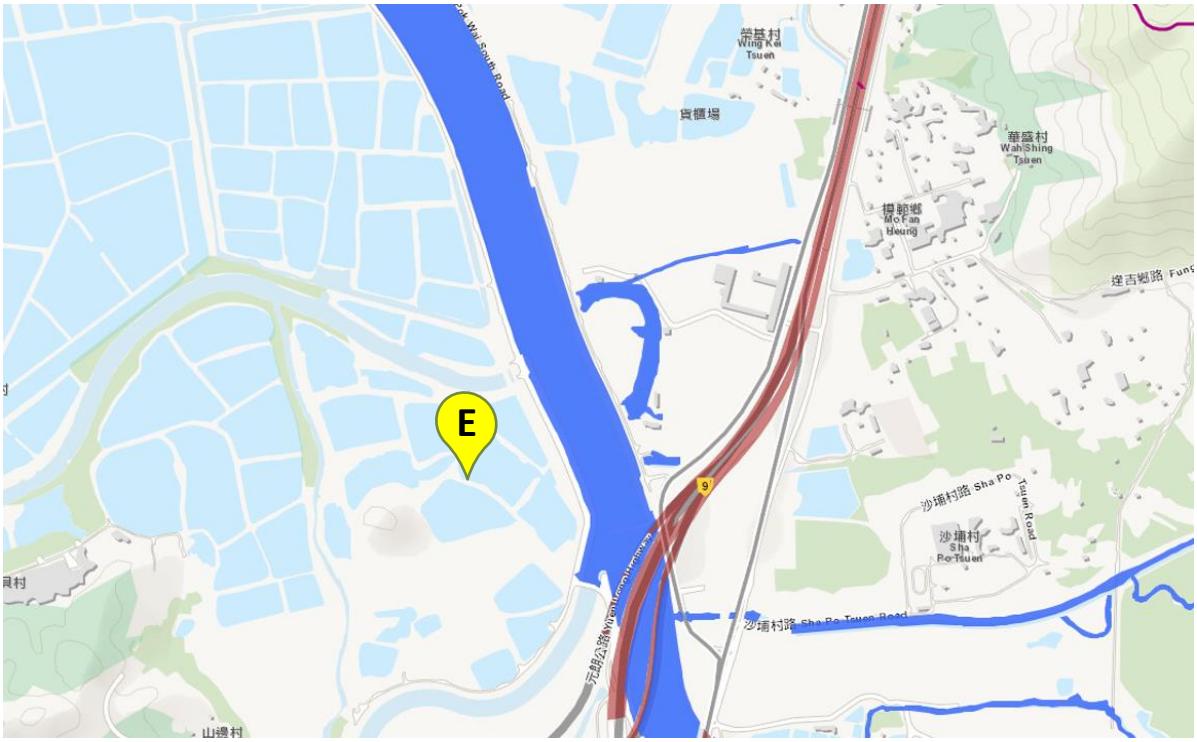

Figure 9.1: Old Kam Tin River channel

Figure 9.2: New Kam Tin River channel

Figure 9.3: Yuen Long Bypass Floodway engineered wetland

10 Fieldwork site F: Nam Sang Wai and hand-pulled ferry

Hand-pulled ferry

Nam Sang Wai is the only site in Hong Kong where hand-pulled ferry route is still in service. This unique form of transportation carries tourists across the old Kam Tin River channel near the original river mouth. Girdled by the old and new Kam Tin River channel, Nam Sang Wai is a birdwatching hotspot.

Proposed Development in Nam Sang Wai

In 1992, Henderson Land group applied to the Town Planning Board (TPB) for a land use change permission in Nam Sang Wai - a plan to build a golf course, residential units and a nature reserve. The plan was initially rejected, but after several judicial reviews and appeals, Henderson Land group eventually won the appeal to the Privy Council in 1996, in which the Court ordered the development plan must meet 27 planning conditions. Nonetheless, the developer failed to propose a development plan that meets the planning conditions for many years.

In September 2010, Henderson Land group submitted a revised development plan with a smaller golf course to the TPB, triggering a signature campaign against the proposed development by environmental groups and citizens. This plan was again rejected by the TPB in 2011. As the planning application period for the development project expired on December 18, 2010, while the TPB rejected the application for the further renewal of planning permission for a period of 3 years, Henderson Land group appealed to the Appeal Board Panel of the TPB, as well as the High Court and the Court of Final Appeal for judicial review.

In February 2011, the development plan was led by Adrian Fu's family, while a meeting between the developer's consultants and environmental groups was initiated. Subsequently, a new plan that excluded the golf course was proposed. Between 2012 and 2016, the developer submitted several revised plan, but were still all rejected by the TPB.

On February 16, 2017, the Court of Final Appeal ruled that the TPB does not need to reconsider the rejected Nam Sang Wai development project proposed by Henderson Land group.

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[Site F: Nam Sang Wai and hand-pulled ferry]

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Map 10.1: Field study site at Nam Sang Wai and hand-pulled ferry

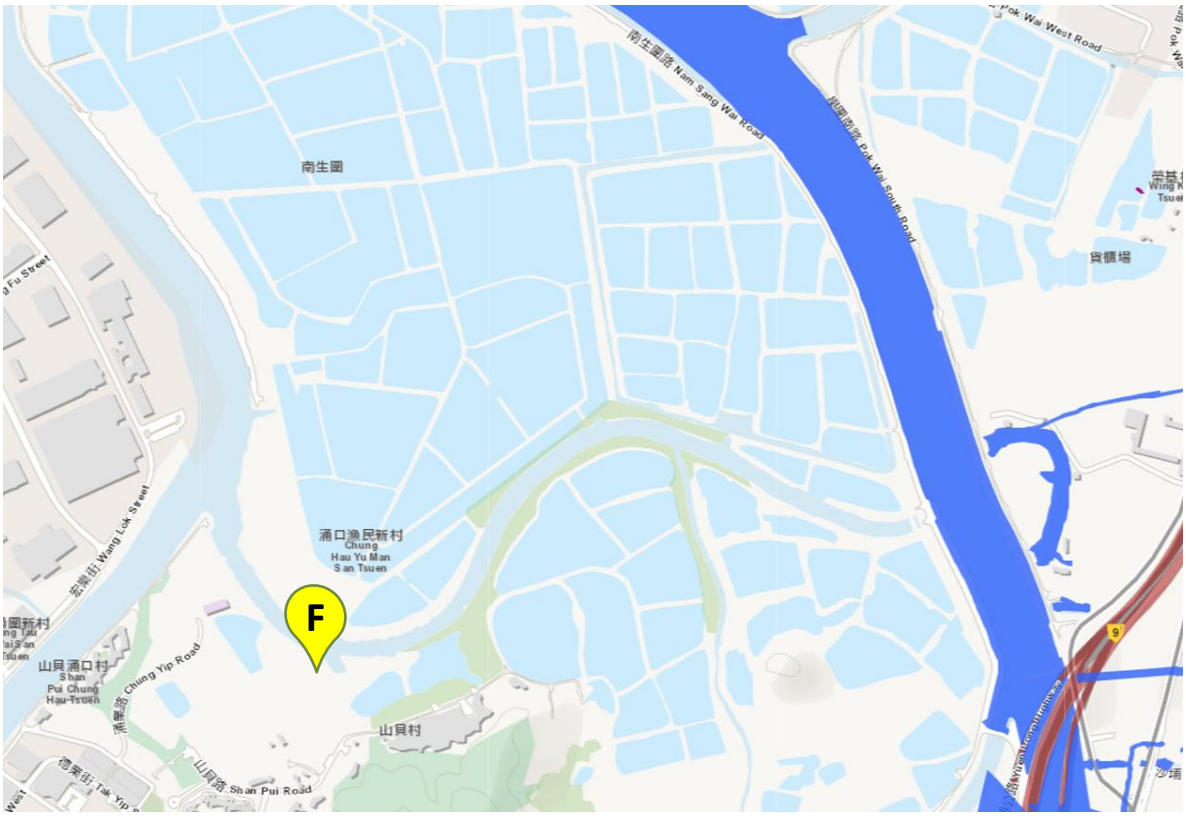

Figure 10.1: Hand-pulled ferry

Figure 10.2: Old Kam Tin River channel next to the hand-pulled ferry pier